

# MACHINE DESIGN

## Index to Volume 8

*January to December, 1936*

MACHINE  
DESIGN

an official  
ENGINEERING  
PRODUCTION  
SALES

*Penton Bldg. Cleveland*

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IN the compilation of this Annual Index every effort has been made to direct the reader of MACHINE DESIGN to the article or pages for which he is looking. Many of the articles covered in the "General Contents" section of the index are cross-referenced, and some are listed four or five times under different headings

THE "Itemized Index" commencing page 12, follows the style and listings given in each issue of the journal. It is, however, broken down in the major groupings to simplify its use. Advertising pages as well as editorial pages are listed under the parts, materials, finishes, etc., for which advertising has been carried, thus giving the reader a complete reference to the total contents of the magazine throughout the year

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# MACHINE DESIGN

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 thrust, Jan., Adv. 76L; March, Adv. 82L; July, Adv. 76L; Sept., Adv. 68L; Oct., Adv. 85, 110L; Nov., Adv. 84L

Bellows, Sept., Edit. 52R, 54R; Nov., Edit. 32

Blowers, June, Adv. 80L

Brakes, May, Edit. 73L, 74R; June, Edit. 33; Oct., Edit. 2, 32, 97L, 98R; Dec., Edit. 65L, 66R

Cable, Feb., Edit. 30R, 74R; June, Edit. 62R, 65L; Sept., Edit. 71L; Dec., Edit. 71L; Adv. 65R

Cam followers, Feb., Edit. 25R, 26L

Cams, Feb., Edit. 39, 40; May, Edit. 43, 44; Aug., Edit. 34, 36, 37, 38L; Nov., Edit. 42R

Cast Parts,  
die castings, March, Edit. 16R, 19, 34, 35, 36; Oct., Edit. 32R, 33L; Nov., Edit. 58R; Dec., Edit. 62R

iron, March, Edit. 18R; Adv. 62; April, Edit. 41R; Aug., Edit. 18L; Sept., Edit. 29, 30, 31, 32; Oct., Edit. 52L, 74R

nonferrous, March, Edit. 26; April, Edit. 42R

steel, March, Edit. 23R, 24L, 26, 38; April, Edit. 26R; May, 37R, 80R; July, Edit. 71L, 72R; Oct., Edit. 51R

Clutches,  
magnetic, May, Edit. 73L, 74R; Adv. 92; Aug., Edit. 34, 35; Adv. 68L; Nov., Edit. 59

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over-running, Jan., Adv. 68L; Feb., Adv. 72L; March, Adv. 108L; July, Edit. 52R, 54R; Oct., Adv. 113L; Nov., Edit. 30R; Adv. 96L

Connectors, July, Edit. 66R

Controllers, March, Edit. 106R, 107L, 120; April, Edit. 77L; June, Edit. 72R; Sept., Edit. 24R

Controls Electrical,  
circuit breakers, Aug., Edit. 54R, 56R

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limit switches, April, Adv. 64L

mercury switches, Jan., Adv. 12; Feb., Adv. 51; March, Edit. 100R, 102R; Adv. 91; April, Adv. 90; May, Adv. 57; June, Edit. 28L; Adv. 75; Oct., Edit. 96R; Adv. 20; Nov., Adv. 81; Dec., Edit. 67L, 68R

micro switch, Dec., Edit. 66R, 67L

motor controls, Jan., Adv. 84; Feb., Edit. 31, 32; March, Adv. 2; June, Edit. 30, 31, 32, 33, 34; July, Adv. 3, 84; Dec., Adv. 2

protective devices, Feb., Edit. 68R, 70R; April, Adv. 69; May, Edit. 76R, 77L

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regulators, March, Edit. 108R, 109L

relays, March, Edit. 105L, 106R; Sept., Edit. 68R, 70R

solenoids, Jan., Edit. 64R, 66R; June, Edit. 30, 33L; July, Edit. 26R; Sept., Edit. 70R, 71L; Nov., Edit. 30R

starters, Jan., Adv. 2; April, Adv. 10, 11; May, Adv. 3, 10, 11; June, Edit. 62; Adv. 13; July, Adv. 15; Aug., Adv. 2; Sept., Adv. 63; Oct., Adv. 19; Nov., Edit. 62R, 64R, 66R, 68R, 70R, 72R; Adv. 3; Dec., Adv. 64L

switches, Jan., Edit. 25R, 64R, 66R, 69L; Feb., Edit. 29R, 30, 31, 32, 64R, 72R, 73L; April, Adv. 2; May, Edit. 72R, 73L, 77L; June, Edit. 32, 33, 34, 78R; Adv. 2, 79R; July, Edit. 26; Aug., Edit. 23, 24, 25, 39, 40, 60R; Adv. 16; Sept., Edit. 28R; Adv. 3, 88; Oct., Adv. 103R; Nov., Edit. 76R, 78R; Adv. 100; Dec., Adv. 58L

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timers, April, Edit. 72R, 74L; Aug., Edit. 62R; Adv. 12; Sept., Edit. 27R; Adv. 75R; Oct., Edit. 34R, 102R, 103R; Adv. 115R

Conveyors, Jan., Edit. 24R, 25L; March, Edit. 107L; Adv. 116L; April, Edit. 26R, 27; May, Edit. 29R, 30L; June, Edit. 74R, 76R; July, Edit. 26L, 58R, 60R; Aug., Edit. 28L; Sept., Edit. 23R, 24L, 58R; Oct., Edit. 33

Counters, Feb., Adv. 9; March, Adv. 95; April, Adv. 24, 64L; May, Adv. 69; June, Adv. 55, 79R; July, Adv. 51; Aug., Adv. 53, 75R; Sept., Adv. 18; Oct., Adv. 91, 103R; Nov., Adv. 98; Dec., Adv. 25

Couplings, Jan., Adv. 74L; Feb., Edit. 54R, 56R; March, Adv. 112L; April, Edit. 66R, 68R; May, Adv. 72L, 78L; June, Edit. 28R, 38R, 65L, 66R; July, Edit. 62R; Adv. 74L; Aug., Edit. 58R; Sept., Adv. 72L; Nov., Edit. 28L, 59L; Adv. 82L, 88L

#### Drives,

*See also under Hydraulic Equipment.*

chain, Jan., Adv. 9; Feb., Adv. 15, 48L; March, Adv. 3, 85, 111R; April, Edit. 27; Adv. 71, 77R; May, Edit. 40; Adv. 71, 79R, 85R; June, Adv. 17, 21; 89R; July, Adv. 54L; Aug., Edit. 18R; Adv. 57; Sept., Adv. 12, 13, 55, 60L; Oct., Edit. 33, 99L; Adv. 10, 11, 89; Nov., Adv. 13, 14, 15, 17; Dec., flat belts, Jan., Edit. 29R; May, Edit. 40; July, Edit. 54R, 56R; Dec., Edit. 71L, 72R

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gearssets, Jan., Edit. 67L, 68R; Adv. 73R; Feb., Edit. 24; Adv. 12, 67, 80; March, Adv. 88L, 96L, 99; April, Adv. 18; May, Edit. 72R, 78R; Adv. 2, 75R, 86, 91; June, Adv. 67, 82L; July, Adv. 56L; Aug., Edit. 57; Sept., Edit. 64; Oct., Edit. 32, 33, 39, 71; Adv. 12, 81; Nov., Edit. 47, 48, 49; Adv. 13, 72L; Dec., Adv. 57, 87

motorized reducers, Jan., Edit. 70R; Adv. 57; Feb., Edit. 62R, 64R; April, Adv. 9, 72L; May, Adv. 82L; June, Adv. 84L, 93; Aug., Edit. 41R; Adv. 81L, 83; Sept., Edit. 60R; Adv. 70L, 80; Oct., Adv. 15, 104L, 119; Nov., Adv. 13, 90L; Dec., Adv. 9, 15, 79L

turbine, Nov., Edit. 72R, 74R

variable speed, Jan., Edit. 74R; Adv. 3, 17; Feb., Adv. 15, 81; March, Adv. 13; April, Edit. 64R, 66R; Adv. 6, 23; May, Edit. 29R; Adv. 21; June, Edit. 72R, 74R; Adv. 63, 64; July, Edit. 68R; Adv. 6; Aug., Adv. 19, 57; Sept., Adv. 21; Oct., Adv. 6, 16, 27; Nov., Edit. 68R; Adv. 25

V-belts, Jan., Edit. 29R, 75L; Feb., Edit. 24; Adv. 11; April, Adv. 3; June, Edit. 27; Sept., Edit. 71L, 72R

Electrical accessories, Feb., Adv. 65; April, Adv. 12; May, Edit. 75L, 76R; June, Adv. 53; Aug., Edit. 31, 32, 64R, 73L; Adv. 65; Oct., Adv. 87; Nov., Edit. 62L, 70R; Dec., Adv. 16

Electronic equipment, July, Edit. 27; Aug., Edit. 66R, 68R; Oct., Edit. 26R

Fastenings,  
keys, Oct., Edit. 37R

nuts, April, Edit. 76R, 77L; June, Adv. 3

screws, Jan., Adv. 66L; Feb., Adv. 68L; April, Adv. 88L; May, Adv. 74L; June, Adv. 58L; July, Edit. 24; Adv. 79R; Aug., Adv. 52L; Sept., Adv. 62L; Oct., Adv. 86L; Nov., Adv. 70L; Dec., Adv. 77

washers, Jan., Adv. 60L; March, Adv. 14, 102L; April, Adv. 91; May, Adv. 18, 66L, 87R; June, Adv. 69; July, Adv. 2, 81, 83; Aug., Adv. 13; Sept., Adv. 2, 15; Oct., Adv. 28; Nov., Adv. 63, 71; Dec., Adv. 22

Filters, July, Edit. 28, 29, 30, 31, 73L; Sept., Edit. 62R, 64R

Flexible shafts, Oct., Edit. 34; Dec., Edit. 68R

Forgings, Feb., Edit. 34; March, Edit. 38; Adv. 58; July, Adv. 67; Sept., Adv. 86; Oct., Adv. 113R; Nov., Adv. 97

Gears, Jan., Edit. 60R, 62R; Adv. 16; Feb., Edit. 35, 36; Adv. 71; March, Adv. 74, 99, 114L, 117R, 119; April, Edit. 28; Adv. 20, 65; May, Edit. 26R, 27L, 37, 80R, 81L; Adv. 81R; June, Edit. 37, 38; Adv. 14, 67; July, Edit. 23R, 26L, 39, 40, 41L; Adv. 14, 66L, 78L; Aug., Adv. 62L, 82; Sept., Edit. 42, 43; Adv. 78L; Oct., 42, 43, 44L, 71R, 73L, 82R, 84R; Adv. 21, 83, 104L, 107R; Nov., Edit. 28L, 30, 34, 35L, 42R, 47, 48, 49; Dec., Edit. 26R, 27, 42R, 43; Adv. 62L, 80L, 86

Heating units, Feb., Adv. 2; March, Edit. 104R; Aug., Edit. 28; Oct., Adv. 99L; Dec., Edit. 72R

Hose, Jan., Edit. 27L, 28; May, Edit. 73L; July, Edit. 66R, 68R

Hydraulic equipment, Jan., Edit. 23, 60R, 62R, 71L, 72R; Adv. 10, 11, 54L; Feb., Edit. 27, 29, 30; March, Edit. 102R, 104R; Adv. 3, 86L; May, Edit. 29L; June, Edit. 27, 70R, 72R; Adv. 22; July, Edit. 26; Oct., Edit. 41, 95L, 96R, 107L; Adv. 3; Dec., Edit. 56R, 58R; Adv. 3

Instruments, March, Edit. 107L, 108R; April, Edit. 30; Aug., Edit. 41R; Sept., Edit. 25R, 26, 66R; Oct., Adv. 96R

Lights, Jan., Edit. 34, 35, 36; Feb., Edit. 45R, 46L; April, Edit. 49, 75L, 76R; Sept., Edit. 73L; Oct., Edit. 105L

Lubrication and lubricating equipment,  
design, Jan., Edit. 24; April, Edit. 37, 38, 39, 81L; May, Edit. 50R, 82R; June, Edit. 38R, 51; Sept., Edit. 25R, 26L; Oct.,



Edit. 36L, 37L; Dec., Edit. 38  
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 oilers, Jan., Edit. 73L, 74R; March, Edit. 109L; April, Edit. 70R, 72R; June, Adv. 80L; July, Adv. 74L; Aug., Edit. 66R; Adv. 70L; Oct., Adv. 111L  
 systems, Jan., Edit. 70R, 71R; Feb., Adv. 77R, 79; April, Edit. 26R; Adv. 66L, 87; June, Adv. 68L; July, Edit. 28, 29, 30, 31, 73L; Aug., Adv. 78; Sept., Adv. 58L; Oct., Adv. 108; Nov., Edit. 64R; Adv. 94; Dec., Adv. 68L  
 Moldings, Sept., Edit. 68R  
 Motors,  
   *See also under Drives, motorized reducers.*  
   adjustable speed, Jan., Adv. 79  
   capacitor, June, Adv. 15  
   fractional horsepower, Jan., Adv. 58L, 65, 82; Feb., Edit. 70R, 72R; Adv. 56L, 76L; March, Adv. 110L; April, Adv. 73, 85R; May, Adv. 13, 60L; June, 83R, 85R; July, Edit. 68R, 70R; Adv. 70L; Aug., Edit. 23, 24L; Adv. 66L; Sept., Adv. 79R; Oct., Edit. 103L; Adv. 97R; Dec., Adv. 12, 83R  
   general, Jan., Adv. 18, 53, 66L, 69R; Feb., Edit. 24, 25L, 31, 32; Adv. 18, 52L, 83; March, Adv. 11, 83, 90L, 92L, 94L, 98L; April, Adv. 17, 58L, 68L, 80L, 83R; May, Edit. 41, 42; Adv. 9, 22, 58L, 59; July, Adv. 9, 10, 11, 17, 58L, 60L, 75R; Aug., Edit. 40L; Adv. 54L, 59, 63; Sept., Adv. 10, 11, 64L, 69, 73R, 77R, 83, 87; Oct., Edit. 88R, 90R, 99L, 100R; Adv. 23, 88L, 92L, 95R, 105R; Nov., Adv. 2, 18, 22, 23, 65, 67, 77, 78L, 99; Dec., Edit. 41, 42, 56R, 58R, 60R; Adv. 61, 63R, 71R, 75, 79R  
   polyphase, Jan., Adv. 61; March, Adv. 97; June, Adv. 18; Aug., Adv. 77R; Sept., Adv. 61; Oct., Adv. 83; Dec., Adv. 55  
   protected, Jan., Edit. 72R, 73L; April, Edit. 66R; June, Edit. 76R, 78R; July, Adv. 55; Sept., Edit. 72R, 73L  
   repulsion start induction, April, Adv. 67; June, Adv. 88  
   reversing, May, Edit. 28, 29L  
   shell type, June, Edit. 31  
   single phase, Feb., Edit. 66R, 68R; Adv. 63; June, Edit. 68R, 70R  
   split-phase, Dec., Adv. 66L  
   squirrel cage induction, March, Adv. 87; May, Adv. 17; Aug., Adv. 20; Oct., Edit. 100R, 102R; Dec., Adv. 17  
   synchronous, May, Edit. 42  
   universal, Feb., Adv. 10; Aug., Adv. 60L; Sept., Adv. 14; Oct., Adv. 110L  
   wound rotor, Aug., Adv. 9  
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   gaskets, Jan., Edit. 29; March, Edit. 19R  
   packings, Aug., Edit. 60R, 62R  
   seal rings, Jan., Adv. 75R; March, Adv. 109R; April, Edit. 26R, 27L; May, Adv. 90L; July, Adv. 77R; Sept., Adv. 71R  
   unit seals, Jan., Edit. 29; Adv. 4, 62L, 76L; Feb., Adv. 4, 14, 70L, 72L; March, Adv. 4, 89, 106L, 115; April, Adv. 4, 16, 21, 74L, 82L; May, Adv. 4, 16, 80L; June, Adv. 4, 16, 74L; July, Adv. 4, 80L; Aug., Adv. 4, 17, 76L; Sept., Adv. 4, 74L, 76L; Oct., Edit. 90R, 92R; Adv. 4, 101; Nov., Edit. 32, 36R; Adv. 4; Dec., Adv. 4, 51, 72L  
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   air, Jan., Adv. 78; Feb., Adv. 62L, 74L; March, Adv. 108L; April, Edit. 31, 32, 33, 82R; Adv. 80L, 84L; May, Adv. 72L; June, Adv. 80L, 86L; July, Edit. 64R, 66R; Adv. 70L; Aug., Adv. 66L; Sept., Adv. 76L; Oct., Adv. 102L, 111L; Nov., Adv. 86L; Dec., Adv. 78L, 83L  
   hydraulic, (see also hydraulic equipment),  
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   liquid, Jan., Edit. 67L, 74R, 75L; Adv. 68L, 80L; Feb., Edit. 68R, 72R; Adv. 70L; March, Edit. 21; Adv. 74, 100L, 112L; April, Edit. 74R, 75L; Adv. 76L, 88L; May, Edit. 38, 39, 40, 82R, 83L, 84R; Adv. 74L, 80L, 88L; June, Adv. 74L, 78L, 80L, 90L; July, Edit. 58R; Adv. 64L, 72L, 80L; Aug., Adv. 62L, 70L, 72L, 74L, 80L; Sept., Edit. 24R, 25R, 26L,

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 Shapes, Feb., Adv. 82L; March, Edit. 38; April, Adv. 79R; May, Adv. 70L; June, Adv. 66L; Aug., Adv. 56L; Oct., Edit. 53, 54, 69R, 71, 73; Adv. 84L; Dec., Adv. 81R  
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   design, Jan., Edit. 23L; Feb., Edit. 28L; Adv. 8; March, Edit. 16R, 17, 21R, 24R, 25L, 38R; Adv. 8; April, Adv. 19; May, Edit. 37, 80R; Adv. 59; June, Adv. 8, 71; July, Edit. 18L, 35, 71L, 72R; Adv. 8; Aug., Adv. 8, 81; Sept., Edit. 24; Adv. 16; Oct., Edit. 47, 48, 49, 50, 51, 52, 53, 54, 63, 65, 69, 71, 73, 74R; Adv. 70; Nov. Edit. 29R, 31, 46, 57R, 92R  
   electrodes and welding rods, Jan., Edit. 72R; Feb., Adv. 13; March, Edit. 104R; Oct., Adv. 76; Nov., Edit. 62  
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